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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,577	12/30/2003	Ju-Kil Lee	21C-0106	8080

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EXAMINER	
ROBERTSON, JEFFREY	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,577	LEE ET AL.	
	Examiner	Art Unit	
	Jeffrey B. Robertson	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☒ Claim(s) *3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 6, line 9, applicant refers to styrene is an acryl monomer. However, styrene does not contain an acryl functionality.

Appropriate correction is required.

Claim Objections

2. Claim 3 is objected to because of the following informalities: For claim 3, applicant refers to styrene as an acryl monomer. However, this monomer does not contain an acryl group. Also in claim 3, glycidylmethacrylate is spelled incorrectly in line 5. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-5, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardner (U.S. Patent No. 4,294,751).

For claims 1 and 3, Gardner teaches polyesters that are modified with maleic anhydride to form intermediates that are then reacted with acryl monomers such as methyl acrylate. See Col. 5, lines 1-48 and col. 8, lines 47-68. Regarding formula (1), in col. 5, line 1, formula (I) of the Gardner reference corresponds to applicant's formula where X equals a carboxylic group. In addition, since maleic anhydride is preferred for the unsaturated polybasic acid modifier, the examiner's position is that the resulting modified polyesters would inherently contain applicant's formula (1). For claim 4, because the acrylic monomer is methyl acrylate, the examiner's position is that the monomer undergoes a radical reaction at the required temperature range. For claim 5, it is noted that formula (I) of Gardner contains a carbon-carbon double bond formula (1) at one end.

For claim 7, in col. 11, lines 1-8 Gardner teaches the use di-tert-butyl-peroxide.

For claim 8, Gardner teaches that the ratios of acryl monomer to polyester are within the ranges set forth by applicant in col. 10, lines 36-42.

For claim 9, Gardner teaches that the polyester is derived from propylene glycol and phthalic anhydride in Example 3.

5. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuo (U.S. Patent No. 6,576,717).

For claims 1, 3, and 4, Kuo teaches a polyester that is formed from isophthalic acid and neopentyl glycol, which is reacted with maleic anhydride in a second stage. Example 3. It is the examiner's position that this intermediate contains groups of formula (1) because the polyester is reacted with maleic anhydride. In Example 4, Kuo

teaches that the modified polyester is reacted with methyl methacrylate. For claim 4, because the acrylic monomer is methyl acrylate, the examiner's position is that the monomer undergoes a radical reaction at the required temperature range.

6. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kiefer-Liptak et al. (US 2004/0044117 A1).

Kiefer-Liptak teaches the preparation of a polyester from ethylene glycol and terephthalic acid, which is subsequently reacted with maleic anhydride in Example 1. It is the examiner's position that this intermediate contains groups of formula (1) because the polyester is reacted with maleic anhydride. In Example 3, Kiefer-Liptak teaches that acryl monomers including butyl acrylate are reacted with the polyester intermediate. Kiefer-Liptak teaches that this reaction is performed at 138° C. Kiefer-Liptak teaches the use of di-t-butyl peroxide in Example 4. In paragraph [0008], Kiefer-Liptak discloses that the polyester has molecular weights, hydroxyl values, and acid values that are within or significantly overlap with applicant's ranges.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 3,061,459, 3,655,820, and 5,281,630 are cited for general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR